

Amendments to the Claims:

The listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1. (Currently Amended) An image pickup apparatus comprising:

an image pickup device having a light-receiving section to receive light from an object to generate an analog video signal, and a light-blocking section to block the light to generate reference signals, a specific number of video data that form images of the object being output per field of the analog video signal;

an analog-to-digital converter to convert the analog video signal specific number of video data into a digital video signal;

a processor to accumulate the reference signals a predetermined number of times from a predetermined accumulation starting point for one of the specific number of video data on scanning lines ~~forming an image of the object~~ for a specific period and average the accumulated signal to generate an average signal; and

an adjuster to adjust a reference level for each of the specific number of video data of the digital video signal based on the average signal so that the difference between the digital video signal and the average signal becomes zero.

2. (Original) The image pickup apparatus according to claim 1 further comprising a controller to decide the number of times for accumulation as 2^n that is smaller than a specific number "m" of the scanning lines for forming the image of the object, "n" and "m" being positive integers, and to decide the accumulation starting point as $(m - 2^n)/2$.

3. (Currently Amended) A method of controlling an image apparatus having a light-receiving section and a light-blocking section comprising the steps of:

receiving light from an object by the light-receiving section to generate an analog video signal;

outputting a specific number of video data that form images of the object per field of the analog video signal,

blocking the light by the light-blocking section to generate reference signals;

converting the analog video signal specific number of video data into a digital video signal;

accumulating the reference signals a predetermined number of times from a predetermined accumulation starting point for one of the specific number of video data on scanning lines forming an image of the object for a specific period;

averaging the accumulated signal to generate an average signal; and

adjusting a reference level for each of the specific number of video data of the digital video signal based on the average signal so that the difference between the digital video signal and the average signal becomes zero.

4. (Original) The controlling method according to claim 3 further comprising the steps of:

deciding the number of times for accumulation as 2^n that is smaller than a specific number "m" of the scanning lines for forming the image of the object, "n" and "m" being positive integers; and

deciding the accumulation starting point as $(m - 2^n)/2$.

5. (Original) A method of controlling an image apparatus having a light-receiving section and a light-blocking section comprising the steps of:

receiving light from an object by the light-receiving section to generate a plurality of analog video signals for a first field period;

blocking the light by the light-blocking section to generate reference signals for each analog video signal;

converting the analog video signals into digital video signals;

accumulating the reference signals for each digital video signal to generate a first accumulated signal;

averaging the first accumulated signal to generate a first average signal;

accumulating the first average signal for all the video signals for a second field that follows the first field period to generate a second accumulated signal;

averaging the second accumulated signal to generate a second average signal; and

adjusting a reference level of each digital video signal based on the second average signal so that the difference between the digital video signals and the second average signal becomes zero.

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6. (New) An image pickup apparatus comprising:

an image pickup device having a light-receiving section to receive light from an object to generate an analog video signal, and a light-blocking section to block the light to generate reference signals, a specific number of video data that form images of the object being output per field of the analog video signal;

an analog-to-digital converter to convert the specific number of video data into a digital video signal;

a processor to accumulate the reference signals a predetermined number of times from a predetermined accumulation starting point for each video data on scanning lines for a specific period and average the accumulated signal to generate average signals for the specific number of video data; and

an adjuster to adjust a reference level for each video data of the digital video signal based on each average signal so that the difference between the digital video signal and the average signal becomes zero.

7. (New) A method of controlling an image apparatus having a light-receiving section and a light-blocking section comprising the steps of:

receiving light from an object by the light-receiving section to generate an analog video signal;

- outputting a specific number of video data that form images of the object per field of the analog video signal;
- blocking the light by the light-blocking section to generate reference signals;
- converting the specific number of video data into a digital video signal;
- accumulating the reference signals a predetermined number of times from a predetermined accumulation starting point for each video data on scanning lines for a specific period;
- averaging the accumulated signal to generate average signals for the specific number of video data; and
- adjusting a reference level for each video data of the digital video signal based on each average signal so that the difference between the digital video signal and the average signal becomes zero.
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